MP-K80 User's Manual

Information to User

This equipment has been tested and found to comply with the
limits for a Class B digital device, pursuant to part 15 of the FCC
Rules. These limits are designed to provide reasonable protection
against harmful interference in a residential installation. This
equipment generates, uses and can radiate radio frequency energy and, if
not installed and used in accordance with the instructions, may cause
harmful interference to radio communications. However, there is no
guarantee that interference will not occur in a particular installation.
If this equipment does cause harmful interference to radio or television
reception, which can be determined by turning the equipment off and on,
the user is encouraged to try to correct the interference by one or more
of the following measures:
- - Reorient or relocate the receiving antenna.
- - Increase the separation between the equipment and receiver.
- - Connect the equipment into an outlet on a circuit different from that
to which the receiver is connected.
- - Consult the dealer or an experienced radio/TV technician for help.

Clik! (Pocket Zip) Digital Audio Player

1. **PORTABLE MP3 PLAYER HARDWARE SPECIFICATION**

1.1 MECHANICAL SPECIFICATION

1.1.1 Dimensions

Dimensions are 61 x 94 x 21.4 mm (W x H x D)

1.1.2 Materials

The front case of the player is to be aluminum of silver color and the rest is to be a high density plastic of blue color

2. **ELECTRICAL SPECIFICATION**

2.1 SIMPLE SYSTEM SPECIFICATION OVERVIEW

2.1.1 DRM support

WMA DRM

2.1.2 Music PlayBack

MP3(MPEG-1, 2, 2.5)
WMA(Windows Media Audio)

2.1.3 Voice Recording

3 Hours / 40Mbyte disk
ADPCM
Voice file PC playable
Built-in Microphone

2.1.4 <u>FM Transmitter</u>

System embedded

Selectable Frequency range : 106.7~107.9 MHz

2.1.5 <u>Equalizer</u>

Normal/Classic/Jazz/Rock/Pop

2.1.6 <u>User Interface</u>

Playback for selected function (Normal, Repeat, Repeat All, Shuffle Repeat All)

Bookmark

AB Repeat

Erase (voice, mp3, wma.. files)

2.1.7 <u>Self Test</u>

All LCD pixel test

Media available size test

Left/Right tone test

2.1.8 <u>Audio</u>

S/N Ratio: > 85dB (A-Weighted)

Distortion: < 0.14% (A-Weighted)

Frequency Response: 20Hz~20KHz

2.1.9 <u>PC Interface</u>

USB (File transfer rate: 300KB/s)

USB cable : 1.5m

2.1.10 <u>Display</u>

STN LCD: black character

EL back light: blue green

File name scroll

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Track number display

Music/Voice/FM TX Mode display

Repeat Mode display(repeat, Shuffle)

Play time, sampling rate display

Battery, Volume level display

Multi Language support

Player Active icon display

2.1.11 Multi language

Display the song name to Multi language in LCD :

English, Korean, Japanese, Spanish,

2.1.12 Battery

Embedded Li-ion Rechargeable

Recharge circuit embedded

Recharge status LED(RED/GREEN)

Play time: MIN 6 Hours/ Normal 8 Hours

Weight: 38g

2.1.13 Auto Power OFF

30 seconds

2.1.14 Memory

Embedded: non

Removable: Clik! (Pocket Zip) Disk(40MB/disk)

2.1.15 Accessory

Audio Manager Installation CD

User' s manual

USB cable: 1.5m

Earphone

AC/DC power adapter

Clik! (Pocket Zip) Disk(2EA)

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2.1.16   <u>Audio Manager</u>

PC : RioPort Audio Manager

MAC

2.2   **FUNCTIONAL OPERATION AND CONTROL**

2.2.1   SDMI

The Portable MP3 Player will operate in compliance to the appropriate SDMI guidelines and can be upgrade to support any future requirements for SDMI. DRM support WMA DRM.

2.2.2   Firmware Upgrade

The vendor will supply a utility to upgrade the player firmware by downloading it from the PC. This will allow new features and functions and is intended to be the mechanism to fully support SDMI phase 2. The upgrade utility will provide when MP-K80 player need firmware upgrade in the internet.

If User is press the F/W Upgrade button, then it will prompt the user to download the upgrade to the player.

During the upgrade all user input will be disregarded on the player .

The firmware upgrade process will be capable of restarting in the event the firmware is corrupted during the upgrade or the USB connection is terminated after a partial download.

2.2.3   <u>CODEC Support</u>

The player will support the latest version of the following CODECs:

- WMA (Windows Media Audio)
- MP3 (MPEG-1, 2, 2.5)
    - The ARM MP3 Decoder is compliant with:
    - audio layer III ISO standards:

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⎯ISO/IEC 11172-3:1993 (MPEG-1)

⎯ISO/IEC 13818-3:1998 (MPEG-2 LSF).

• the MPEG-2.5 extensions.

Multichannel audio (MPEG-2 MC) is not supported.

• WAV

  G.721(8kHz/32bps)

In addition, the player will have the ability to be upgraded to the following CODECs through a firmware download:

2.2.4   Volume Control

Volume is controlled by two (2) buttons marked with a "+" or a "-". The volume level will proportionally range from minimum (1) to maximum (20) over 20 discrete steps. Momentarily pressing either the "+" or "-" buttons would increase or decrease the volume by one step respectively. The volume icon in the display will indicate 10 lines. 1 line is 2 volume level.

2.2.5   Lock Control

A two (2) position slide switch will provide a lock function when in position 2. Position one (1) is normal operation. Lock is defined as all other controls (buttons) will have no effect on the player when in lock mode. An icon indicating "KEY HOLD" will be displayed in the LCD indicating that lock mode is active. When the player is in lock mode, the previous operational state is preserved.

Note that the display will not be on when the player is in the OFF mode, but the lock function will still operate as previously described. However, pressing the ON/OFF button when OFF in lock mode will cause the display to illuminate and the "KEY HOLD" letters to be displayed for 3 seconds.
Note also that the operation of the USB connection is unaffected by the position of the LOCK switch.

2.2.6   Operational Modes

The operation of the player is controlled by eight (8) buttons, except as defined above for volume and lock control. The eight buttons are PLAY/PAUSE, NEXT/FAST FORWARD, PREVIOUS/REWIND, STOP/POWER OFF(ON), RECORD, [A<->B], [ERASE] and [MODE]. These buttons are also referred to

below by the designations [P/P], [NEXT], [FF], [PREV], [REW], [STOP], [REC] and [MODE], [A<->B], [ERASE]. If a given action is not specified in the state transition tables, it is defined as a "do not care" and has no operational effect.

2.2.7   POWER UP/RESET

Description: New or of no battery power batteries have just been installed in the player. The player will reset itself and transition immediately to the STOPstate .
If no first time play list will show saved track or bookmark track and file name.
Transmitter frequency will be displayed only saved or initial(106.7Mhz) value for the first time.

TABLE 6

POWER UP/RESET TRANSITION

POWER UP/RESET state transitions	Next State
Power is applied – reset player and set default playlist position or last known position.	OFF

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POWER UP CONDITIONS:

The following table describes the default settings for user operation.

SETTING	CONDITION
REPEAT	Default value(REPEAT OFF)
EQUALIZER	Pre. Value
VOLUME	Pre. Value
HOLD	UNLOCKED (shipped in this condition)
PLAY/PAUSE	PAUSE
USB	Look for connection
Clik! (Pocket Zip) Disk	Look for Clik! (Pocket Zip) Disk

2.2.8   OFF

Description: The player is in the lowest possible power management state. The LCD display is off. The player remembers the position in the continuous play list (track# and elapsed minutes/seconds into track), except if the previous state was POWER UP/RESET, in which case the default playlist position may be set (see 2.2.7).

OFF state transitions	Next State
Press [STOP]	PAUSE –Display current playlist position after illuminating display
Press [STOP] with no Clik! (Pocket Zip) Disk or no tracks present	PAUSE – default playlist position, illuminate display and show "NO DISK" or "NO SONGS" messages as appropriate
Press [STOP] with Lock in position 2.	OFF – illuminate display HOLD text for 3 sec and display song name.

2.2.9   PAUSE

Description: The player is powered on but stopped. The LCD display is on and indicates the current playlist position (track # and elapsed time in minutes/seconds into track).   A battery icon is also displayed which graphically shows battery life. The play mode indicator in the display is blinking to indicate the Pause State.

PAUSE state transitions	Next State
No activity for 30 seconds (no buttons pressed, no play)	OFF
Press [PP]	PLAY – begin at playlist position
Press [PP] with no tracks present	PAUSE – default playlist position, display "no songs" messages as appropriate
Press [NEXT] (momentary)	SKIP FORWARD - displays track and File Name.
Press [PREV] (momentary)	SKIP BACKWARD - displays track and File Name
Press [FF] (depress and hold > 1 sec)	No effect. Not operational in Pause mode.
Press [REW] (depress and hold > 1 sec)	No effect. Not operational in Pause mode.
Press [MODE]	MODE
Press [STOP] for 3 seconds	OFF

2.2.10   PLAY

Description: The "MP3" letters are displayed on the upper left corner of the LCD. Then a screen like the following will appear.

2.2.11   PLAY Mode Text Display

The LCD initially displays the track, total track number (or current position in track if paused within a track), File Name, playback time.   The player displays 14 characters for the File Name.   If File Name are longer than the 14 characters that the display can show at one time then the display will scroll at a rate of 1 characters per second (unit is the English language).

2.2.12   Playlists and Playlists Management

Playlists management will be invisible to the user. The playlist is defined all songs available in Clik! (Pocket Zip) Disk. The Original playlist position is defined sequence of file download.   The "Shuffle playlist" is defined as the playlist reordered in a shuffle order. The player will dynamically redefine the original playlist and shuffle playlists change through new file download, file deletion, or Clik! (Pocket Zip) Disk removal or change.

Repeat Status Icon – Graphically indicates the Repeat and Random status

Repeat off(no icon)
Repeat one
Repeat all
Shuffle
Shuffle and Repeat all

The PLAY modes are described below:

MODE	Description
REPEAT ONE	When the user enters REPEAT ONE mode the current track will repeat until the user exits the REPEAT ONE mode or the user presses the [FF] or [REW] button. If the user presses the [FF] or [REW] button then the current track will be changed and the new track will repeat. Display the REPEAT icon on the LCD.
REPEAT ALL	When the user enters REPEAT ALL mode the entire current playlist (either Original playlist or Random playlist") is repeated continuously. Display the REPEAT ALL icons on the LCD.
SHUFFLE	The player will play each song in the shuffle playlist then go to the STOP state. Display the SHUFFLE icon on the LCD.
SHUFFLE REPEAT ALL	Plays all stored MP3 songs or Voice files in random order, then repeats over and over.
REPEAT OFF	The player will play each song in the Original playlist and then go to the PAUSE state.

Specification 0.9

TABLE 9

PLAY TRANSITION

PLAY Transition Table:

PLAY state transitions	Next State
Press [PAUSE] (momentary)	PAUSE (remember playlist position)
Press [NEXT] (momentary)	SKIP FORWARD
Press [PREV] (momentary)	SKIP BACKWARD
Press [FF] (depress and hold > 1 sec)	FAST FORWARD -. (see section 2.2.15)
Press [REW] (depress and hold > 1 sec)	REWIND - (see section 2.2.16)
Press [STOP]	OFF

2.2.13   SKIP FORWARD (NEXT)

Description: The player skips forward to the next track on the current playlist order and then immediately transitions either to the PLAY or PAUSE state, depending on the state the player was in when it entered the SKIP FORWARD mode. The LCD display changes the track number accordingly and otherwise behaves as defined in the MODE.

SKIP FORWARD

TABLE 10

SKIP FORWARD state transitions	Next State
Skip to beginning of next track in current playlist order	PLAY (if previous state was PLAY)
Skip to beginning of next track in current playlist order	PAUSE (if previous state was PAUSE)

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2.2.14   SKIP BACKWARD (PREV)

Description: The player skips backwards to the previous track on the continuous playlist order if the elapsed time into the current track is less than two seconds. If the elapsed time is greater than 2 seconds, it skips back to the beginning of the current track. In either case, the player immediately transitions to the PLAY or PAUSE state, depending on the state the player was in when it entered the SKIP BACKWARD mode. The LCD display changes the track number accordingly and otherwise behaves as defined in the MODE.

TABLE 11

SKIP BACKWARD TRANSITION

SKIP BACKWARD state transitions	Next State
If elapsed time into track is <= 2 seconds, skip back to beginning of previous track in current playlist order	PLAY (if previous state was PLAY)
If elapsed time into track is > 2 seconds, skip back to beginning of current track	PLAY (if previous state was PLAY)
Skip back to beginning of previous track in current playlist order	PAUSE (if previous state was PAUSE)

2.2.15   FAST FORWARD (FF)

Description: The FAST FORWARD function is only available in PLAY mode. It is not available from the PAUSE mode. When the [FF] button is released, the player immediately transitions back to the PLAY state. If the end of a track is reached while in Fast Forward mode it should continue to Fast Forward into the next track on the current playlist. The display should show the Track and Track Time during the entire period the user is in Fast Forward mode.

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TABLE 12

FAST FORWARD TRANSITION

USER ACTION	RESPONSE	Next State
Button Depressed 1-5 seconds	The track position is moved at a rate of 10 seconds of song play for each second button is depressed Displays: After the button is released the track number, total playback time, bitrate, and the File Name will be displayed.	PLAY
~~Button Depressed > 5 seconds~~	~~The track position is moved at a rate of 30 seconds of song for each second depressed~~ ~~Displays: After the button is released the track number, total playback time, bitrate, and the File Name will be displayed.~~	~~PLAY~~

2.2.16   REWIND (REW)

Description: The REWIND function is only available in PLAY mode. It is not available from the PAUSE mode When the [REW] button is released, the player immediately transitions back to the PLAY state

TABLE 13

REWIND TRANSITION

USER ACTION	RESPONSE	Next State
Button Depressed 1-5 seconds	The track position is moved at a rate of 10 seconds of song play for each second button is depressed Displays: After the button is released the track number, total playback time, bitrate, and the File Name will be displayed.	PLAY
~~Button Depressed > 5 seconds~~	~~The track position is moved at a rate of 30 seconds of song for each second depressed~~ ~~Displays: After the button is released the track number, total playback time, bitrate, and the File Name will be displayed.~~	~~PLAY~~

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MPMAN MP - K80 ————————————

Specification 0.9

2.2.17   Voice Playback

Description: The Voice play is only available in VOX mode. The "VOX" letters are displayed on the upper left corner of the LCD. If you go into the VOX mode, press the REC button. Then a screen like the following will appear. To escape the VOX mode select the other mode.

USER ACTION	RESPONSE	Next State
PLAY Button Depressed	Press the *Play/PAUSE* button. If there is more than one voce recording file, the player will play them all until playback is stopped. Displays: After the button is released the track number, total playback time, bitrate, and the File Name will be displayed.	PLAY
Previous or Next button Depressed	Use the *Previous or Next* button to select a voice record file. Then the track number, total playback time, and a voice record file name will be displayed.	STOP
ERASE button Depressed	To delete a voice recording file	STOP
STOP Button Depressed	Press the *Stop* button again during playback. If you press the STOP button for a long time, player will go to the PLAY mode. Displays: After the button is released the track number, total playback time, and the File Name will be displayed	STOP

2.2.18   Voice Recording

Description: The Voice recordings is only available in VOX mode.   Voice recordings will be done only in the Voice Stop mode. The "VOX" letters are displayed on the upper left corner of the LCD.

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TABLE 14

RECORD TRANSITION

USER ACTION	RESPONSE	Next State
REC button Depressed	The Voice file name number will be increased by 1 and will start recording. Note: The LED in the REC button will be blinking while recording. Displays: After the button is released the track number, total available recording time, bitrate, and the File Name will be displayed.	REC
STOP button Depressed	Press the REC button again during a voice recording. The LED stops blinking. Recording will stop and the file will be saved automatically. The file name that will be stored in the Rioport Manager will be " VOICEXX.WAV" where xx is the file number. The maximum number of voice recording files is 99. Displays: After the button is released the track number, total playback time, bitrate, and the Save File Name will be displayed.	STOP

2.2.19 AB Repeat

Description: The AB Repeat is only available in playback. In this time BOOKMARK do not operate. You can set an AB Repeat to play a segment of the song over and over in a loop.

TABLE 15

AB REPEAT TRANSITION

USER ACTION	RESPONSE	Next State
A<->B button Depressed	During playback, Press the A<->B button once to set the starting point. "A<>" will display on the LCD. In this time if press the STOP button point A is canceled and disappear the "A<->" mark. Press the A<->B button again to set the ending point. "A<>B" will display on the LCD and playback will loop repeatedly between point A and point B. If the end of the song is reached before you set point B, then point A will be cancelled. Press the A<->B button again to cancel the AB Repeat. You can also press the Stop or select another track to cancel AB Repeat.	PLAY

	" A<>B" will disappear from the LCD. Displays: After button is released " A<->B " Repeat icon will be displayed.	

2.2.20   <u>BOOKMARK</u>

Description: The BOOKMARK use to playback of an song from a specific point. In this time A<->B Repeat do not operate.

TABLE 16

BOOKMARK TRANSITION

USER ACTION	RESPONSE	Next State
A<->B button double click	During playback of an song, double click the A<->B button to set the Bookmark. The " BOOK" icon will appear on the LCD. To Cancel double click the A<->B button again.	PLAY
A<->B button Depressed	Once the Bookmark is set, press the A<->B button once to start playing the current song from the Bookmark position.	PLAY

2.2.21   <u>ERASE</u>

Description: The Erase button use to erase any file (MP3,WMA,VOX...) stored.

TABLE 17

ERASE TRANSITION

USER ACTION	RESPONSE	Next State
FF/REW button Depressed	Until the desired track is selected. Make sure playback is stopped.	STOP
ERASE button Depressed	Double click the ERASE button. You will be asked to confirm that you want to erase the file. To erase the file, press the Play/Pause button. " Erasing..". will appear briefly on the LCD while the file is being deleted. To cancel, press any other button.	STOP

16/18

.... **Clik! (Pocket Zip)** Digital Audio Player
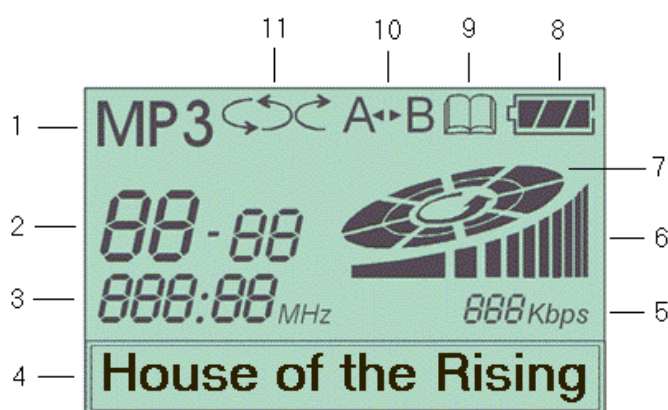
Specification 0.9

2.2.22   FM TX SETTING

Description: The FM TX Setting mode is only available in FM TX SETTING mode. This set transfer frequency for radio or car audio and so on. This is FM transmitter for broadcasting a FM signal on the air. Displayed frequency is saved frequency for the latest.

TABLE 18

FM TX TRANSITION

USER ACTION	RESPONSE	Next State
Any button Depressed except the FF/REW button	To Exit the FM-TX mode	PLAY or STOP or PAUSE
FF/REW button Depressed	Press the FF/REW button change frequency up and down. Frequency range is from 106.7 to 107.9 MHz. Then FM frequency is saved and setting. Displays: After the button is released changed frequency will be displayed.	PLAY or STOP or PAUSE

2.2.23   LCD Display

Menu Mode Display - Pressing the Function key will display the Function Mode name as follows:

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- REPEAT – Repeat and Shuffle mode
- VOX – Voice playback / record mode
- MP3 – MP3 playback mode
- EQ – Equalize mode
- FORMAT – media disk format mode
- FM – FM transmitter frequency set /preset mode
- SELF TEST – self test mode

Track Number – The current track number over the total track number for the MP3 songs,   Voice files and FM preset channels is displayed.

Time / FM TX Frequency Status – Shows the current time status: elapsed time, total time, or FM TX frequency.

Title Display – Displays the name of the current MP3 song, Voice file name, and any necessary comments.

Bitrate – Shows the bitrate of the current MP3 song.

Volume Indicator – Indicates the volume level that ranges 0 to 10.

Active Icon – Animates as performing the playback, fast backward, fast forward, stop, and recording.

Battery Indicator – Graphically displays the amount of battery power remaining.

Bookmark – Indicates that the Bookmark is set. Bookmark function will work only during the playback of the current MP3 song or Voice file.

A↔B Repeat – Indicates that an A↔B Repeat is set and repeats playback between the A↔B Repeat area. The A↔B Repeat will work only during the playback of the current MP3 song or Voice file.

Repeat Status Icon – Graphically indicates the Repeat and Random status

2.2.24   Menu Mode

The Menu mode is entered by pressing the MODE button. If the user is currently playing a song the song will continue (except if SELFTEST and FORMAT MODE is selected). While in the MENU mode, the player will display a choice of menu items using the text display. The MENU mode is explained in the following flowcharts.

* Play – play button
* Any – except the using key